



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 10
1200 Sixth Avenue
Seattle, WA 98101

NOV 27 2002

CERTIFIED / RETURN RECEIPT REQUESTED

Reply To
Attn Of: OAQ-107

Kevin Bolton
EnCana Oil & Gas (USA) Inc.
Attn: Alaska Project
950 17th Street, Suite 2600
Denver, Colorado 80202

RECEIVED

Anchorage, Alaska

NOV 29 2002

REGIONAL SUPERVISOR
FIELD OPERATION
MINERALS MANAGEMENT SERVICE

Re: McCovey Prospect Permit No. OCS 2002-01, Revision 1

Dear Mr. Bolton:

The United States Environmental Protection Agency (EPA) has evaluated EnCana's November 14, 2002, application for a revision to outer continental shelf (OCS) air construction permit No. OCS 2002-01 issued May 29, 2002. EnCana is requesting the addition of 22 emission units to the facility, an increase in the permitted hours of operation for the existing garbage incinerator, a reduction in the permitted hours of operation for the existing flares, and a permit condition limiting the hours of operation for two new garbage incinerators. Projected annual emissions from the revised emissions inventory are not expected to increase based upon EnCana's projected operating conditions and commitment to operational restrictions. In addition, projected annual emission are not expected to interfere with the NAAQS. The State of Alaska Division of Governmental Coordination (DGC) has reviewed the revised emissions inventory, and the DGC has determined that an additional consistency review is not needed.

EPA has determined that the project continues to satisfy the requirements of the Clean Air Act and 40 C.F.R. Part 55. Accordingly, on the basis of the original OCS permit application and subsequent application for permit revision, EPA hereby grants its approval to EnCana to conduct exploratory drilling at the McCovey Prospect subject to the terms and conditions contained in the enclosed permit. This final permit decision is supported by EPA's final determination analysis document, also enclosed.

The revised permit is effective upon issuance, and the permit rescinds the previous May 29, 2002, permit.

Sincerely,

L. John Iani
Regional Administrator

cc: w/ enclosures

Rosemary Ahtuanguaruak, Native Village of Nuiqsut

Bill Tegoseak, Inupiat Community of the Arctic Slope

June Childress, Wainwright Traditional Council

Rex Tuzroyluk, Native Village of Point Hope

Jim Baumgartner, Alaska Department of Environmental Quality

Jeff Walker, Minerals Management Service

Kaye Laughlin, Alaska Division of Governmental Coordination

Glenn Ruckhaus, Lynx Enterprises.

Dan Young, Air Sciences

Mike Frank, Trustees for Alaska

Glenn Gray, Alaska Division of Governmental Coordination

Enclosures:

1. Copy of OCS Permit
2. Copy of Final Determination Analysis Document

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 SIXTH AVENUE
SEATTLE, WASHINGTON 98101

APPLICATION OF:)	
)	
EnCana Oil & Gas (USA) Inc.)	
formerly AEC Oil & Gas (USA) Inc.)	No. OCS 2002-01, Revision 1
950 17 th Street, Suite 2600)	APPROVAL OF APPLICATION
Denver, Colorado 80202)	TO CONSTRUCT

EnCana Corporation was created on April 5, 2002, by the merger of Alberta Energy Corporation Ltd. (AEC) and PanCanadian Energy Corporation. The applicant is now EnCana Oil & Gas (USA) Inc. (hereafter referred to as "EnCana").

This revised permit effective upon issuance and rescinds the Outer Continental Shelf (OCS) permit, No. OCS 2002-01, previously issued to EnCana on May 29, 2002.

Pursuant to the Agency regulations for the OCS set forth at Title 40, Code of the Federal Regulations, Part 55 and based upon complete information submitted by EnCana on January 30, 2002, February 21, 2002, March 8, 2002, and November 14, 2002, the Regional Administrator now finds as follows:

FINDINGS

1. EnCana proposes to conduct exploratory oil and gas drilling in the OCS near-shore waters of the Beaufort Sea at the McCovey Prospect exploration site (the site hereafter referred to as "McCovey"), north-northeast of the Midway Islands, in the vicinity of Prudhoe Bay, Alaska. Exploratory drilling will be conducted from November 2002 through March 2003, and / or, from November 2003 through March 2004.
2. EnCana proposes to utilize the Steel Drilling Caisson/Mat drilling facility (the facility hereafter referred to as "SDC") to conduct the exploration activities at the McCovey site.
3. The SDC is classified as an ambient air quality facility under 18 AAC 50.300(b) because each of its two flares has a rated capacity of greater than 100 MMBtu per hour.

4. Due to the SDC's classification as a facility having the potential to violate one or more of the ambient air quality standards (AAQS), EnCana is required to obtain a construction permit pursuant to 18 AAC 50.300(b).
5. EnCana has requested operating restrictions for SDC so as to limit its potential to emit air pollution and thus avoid interfering with the attainment or maintenance of the AAQS in the area of impact. To accommodate EnCana's request, EPA is restricting the following operations of the SDC through this permitting action: (a) annual quantity of diesel fuel combusted by all emissions units, (b) sulfur content of the diesel fuel being combusted, (c) annual hours of operation for the test flares, two of the garbage incinerators, and tugs while physically attached to the SDC, and (d) annual hours of diesel fuel combustion for one of the garbage incinerators.
6. In order to further limit SDC's potential to emit air pollution and thus avoid interfering with the attainment or maintenance of the AAQS in the area of impact, EPA is restricting the following operations of marine vessels physically attached to the SDC through this permitting action: (a) sulfur content of the diesel fuel being combusted and (b) annual hours of operation.
7. EnCana conducted an analysis to determine the SDC and its related activity's potential emissions utilizing fuel use limits and limits on hours of operation. EnCana assumed that all emissions units were operated at their respective maximum rated hourly capacities over a projected operating period specific to each unit. EnCana also assumed that all diesel fuel fired had a maximum allowable sulfur content. The projected maximum allowable emissions as calculated by EnCana are presented here: nitrogen oxides (NO_x) – 153.65 tons per year (TPY), carbon monoxide (CO) – 23.49 TPY, respirable particulate matter (PM₁₀) – 9.13 TPY, sulfur dioxide (SO₂) – 10.04 TPY, volatile organic compound (VOC) – 23.63 TPY, and lead (Pb) – 0.3 pounds per year (0.00015 TPY).
8. Projected allowable emissions of NO_x from the SDC and related activities exceed 40 TPY given the terms of the proposed construction approval. Pursuant to 18 AAC 50.310(n), EnCana is required to demonstrate that allowable NO_x emissions from the facility will not interfere with attainment or maintenance of the AAQS for NO₂.

9. Pursuant to 18 AAC 50.310(n), EnCana is not required to make such an air quality demonstration for PM₁₀, SO₂, and Pb as allowable emissions from the facility, including emissions from the SDC and its related activity, do not exceed, respectively 15 TPY, 40 TPY or 0.6 TPY. The above provision does not provide for any ambient air quality demonstration due to CO or VOC emissions.
10. EnCana conducted an ambient air impact analysis of the original emissions inventory included in the May 29, 2002, permit to demonstrate that allowable emissions from the facility will not interfere with attainment or maintenance of the AAQS for NO₂.
11. This revised permit will expire on July 4, 2004. Therefore, the SDC is a “temporary construction activity” as defined in 18 AAC 50.990(92) and exempt from the requirement to demonstrate that allowable emissions from the facility will not interfere with maximum allowable ambient concentrations.
12. EnCana did not conduct an ambient air impact analysis to demonstrate that allowable emissions from the facility will not interfere with maximum allowable ambient concentrations.
13. Air pollution emissions from EnCana are regulated by the state of Alaska requirements applicable to OCS sources, July 2, 2000, (40 CFR Part 55, Appendix A) and the Alaska Implementation Plan (40 CFR Part 52, Subpart C). Conditions within this permit are consistent with the above regulations.
14. No proposed emissions unit at the SDC is subject to either the New Source Performance Standards (40 CFR Part 60) or the National Emissions Standards for Hazardous Air Pollutants (40 CFR Part 61 and 63).
15. EPA is permitting SDC to operate with maximum projected allowable emissions of: NO_x – 123.36 TPY, CO – 16.55 TPY, PM₁₀ – 8.25 TPY, SO₂ – 4.93 TPY, VOC – 22.74 TPY, and Pb – 0.3 pounds per year (0.00015 TPY).
16. On August 7, 2002, EnCana notified EPA of commencement of construction and startup of the facility as required under Condition 5 of the original permit.

Accordingly, it is hereby determined that, subject to the conditions set forth below, EnCana is permitted to conduct exploratory oil and gas drilling using the SDC/Mat drilling

facility at the McCovey Prospect exploratory site, as described in the permit applications submitted on January 30, 2002, February 21, 2002, March 8, 2002, and November 14, 2002.

APPROVAL CONDITIONS

1. The following restrictions on the type and quantity of fuel, hours of operation, and emission limitations apply to the SDC's air pollution emission units (EU). These limits shall not be exceeded:

EU ID	EU	EU Description	Fuel Type	Annual Operating Limit	Emission Limitations
1	Caterpillar D-399 Engine	Drilling Main Engine #1	Diesel	-	•20% Opacity ^{3,4} •0.05 grains PM/SCF ⁵ •500 ppm SO ₂ ⁶
2	Caterpillar D-399 Engine	Drilling Main Engine #2	Diesel	-	•20% Opacity ^{3,4} •0.05 grains PM/SCF ⁵ •500 ppm SO ₂ ⁶
3	Caterpillar D-399 Engine	Drilling Main Engine #3	Diesel	-	•20% Opacity ^{3,4} •0.05 grains PM/SCF ⁵ •500 ppm SO ₂ ⁶
4	Caterpillar D-399 Engine	Drilling Main Engine #4	Diesel	-	•20% Opacity ^{3,4} •0.05 grains PM/SCF ⁵ •500 ppm SO ₂ ⁶
5	Caterpillar D-399 Engine	Drilling Main Engine #5	Diesel	-	•20% Opacity ^{3,4} •0.05 grains PM/SCF ⁵ •500 ppm SO ₂ ⁶
6	Caterpillar D-399 Engine	Drilling Main Engine #6	Diesel	-	•20% Opacity ^{3,4} •0.05 grains PM/SCF ⁵ •500 ppm SO ₂ ⁶
7	Caterpillar D-399 Engine	Drilling Main Engine #7	Diesel	-	•20% Opacity ^{3,4} •0.05 grains PM/SCF ⁵ •500 ppm SO ₂ ⁶
8	Flare - P	Flare on the Port Side	Well gas	See limit at end of table	•20% Opacity ^{3,4} •0.05 grains PM/SCF ⁵ •500 ppm SO ₂ ⁶

EU ID	EU	EU Description	Fuel Type	Annual Operating Limit	Emission Limitations
9	Flare - S	Flare on the Starboard Side	Well gas	See limit at end of table	<ul style="list-style-type: none"> •20% Opacity^{3,4} •0.05 grains PM/SCF⁵ •500 ppm SO₂⁶
10	GM 12V71 Engine	Port Crane Engine	Diesel	-	<ul style="list-style-type: none"> •20% Opacity^{3,4} •0.05 grains PM/SCF⁵ •500 ppm SO₂⁶
11	GM 12V71 Engine	Starboard Crane Engine	Diesel	-	<ul style="list-style-type: none"> •20% Opacity^{3,4} •0.05 grains PM/SCF⁵ •500 ppm SO₂⁶
12	GM 6V71 Engine	Aft Crane Engine	Diesel	-	<ul style="list-style-type: none"> •20% Opacity^{3,4} •0.05 grains PM/SCF⁵ •500 ppm SO₂⁶
13	Lister Boiler	Hot water boiler	Diesel	-	<ul style="list-style-type: none"> •20% Opacity^{3,4} •0.05 grains PM/SCF⁵ •500 ppm SO₂⁶
14	Lister Boiler w/Saacke Burner	Hot water boiler	Used oils from SDC equipment and diesel	-	<ul style="list-style-type: none"> •20% Opacity^{3,4} •0.05 grains PM/SCF⁵ •500 ppm SO₂⁶
15	Atlas MAX50S	Garbage incinerator	Trash, domestic waste, and diesel	500 hours combusting diesel fuel ¹	<ul style="list-style-type: none"> •20% Opacity^{3,4}
16	Cuttings Cleaning System	Volcano burner fitted to a rotary dryer	Diesel	-	<ul style="list-style-type: none"> •20% Opacity^{3,4} •0.05 grains PM/SCF⁵ •500 ppm SO₂⁶
17	DST	Drilling supply tug physically attached to SDC	Diesel	264 hours ¹	<ul style="list-style-type: none"> •20% Opacity⁷ •Diesel Fuel Sulfur Content ≤ 0.5 % by weight²
18	FST	Fuel supply tug physically attached to SDC	Diesel	100 hours ¹	<ul style="list-style-type: none"> •20% Opacity⁷ •Diesel Fuel Sulfur Content ≤ 0.5 % by weight²
19	Lister Air Heater	Indirect fired hot-air heater	Diesel	-	<ul style="list-style-type: none"> •20% Opacity^{3,4} •0.05 grains PM/SCF⁵ •500 ppm SO₂⁶

EU ID	EU	EU Description	Fuel Type	Annual Operating Limit	Emission Limitations
20	MAC Chinook 800	Indirect fired hot-air heater	Diesel	-	•20% Opacity ^{3,4} •0.05 grains PM/SCF ⁵ •500 ppm SO ₂ ⁶
21	Kubota D905	Diesel engine to power MAC Chinook 800	Diesel	-	•20% Opacity ^{3,4} •0.05 grains PM/SCF ⁵ •500 ppm SO ₂ ⁶
22	MAC Chinook 800	Indirect fired hot-air heater	Diesel	-	•20% Opacity ^{3,4} •0.05 grains PM/SCF ⁵ •500 ppm SO ₂ ⁶
23	Kubota D905	Diesel engine to power MAC Chinook 800	Diesel	-	•20% Opacity ^{3,4} •0.05 grains PM/SCF ⁵ •500 ppm SO ₂ ⁶
24	Halliburton Line Heater	Heats the piping during well testing	Diesel	-	•20% Opacity ^{3,4} •0.05 grains PM/SCF ⁵ •500 ppm SO ₂ ⁶
25	Herman Nelson	Hot-air heater	Diesel	-	•20% Opacity ^{3,4} •0.05 grains PM/SCF ⁵ •500 ppm SO ₂ ⁶
26	Herman Nelson	Hot-air heater	Diesel	-	•20% Opacity ^{3,4} •0.05 grains PM/SCF ⁵ •500 ppm SO ₂ ⁶
27	Herman Nelson	Hot-air heater	Diesel	-	•20% Opacity ^{3,4} •0.05 grains PM/SCF ⁵ •500 ppm SO ₂ ⁶
28	Smart Ash II	Garbage incinerator	Trash, domestic waste, and diesel	See limit at end of table	•20% Opacity ^{3,4}
29	Smart Ash II	Garbage incinerator	Trash, domestic waste, and diesel	See limit at end of table	•20% Opacity ^{3,4}
30	Twin Detroit 8V71's	Halliburton cement pump	Diesel	-	•20% Opacity ^{3,4} •0.05 grains PM/SCF ⁵ •500 ppm SO ₂ ⁶

EU ID	EU	EU Description	Fuel Type	Annual Operating Limit	Emission Limitations
31	Detroit 4-71	Schlumberger logging unit	Diesel	-	<ul style="list-style-type: none"> •20% Opacity^{3,4} •0.05 grains PM/SCF⁵ •500 ppm SO₂⁶
32	Hatz A239	Schlumberger GPS unit	Diesel	-	<ul style="list-style-type: none"> •20% Opacity^{3,4} •0.05 grains PM/SCF⁵ •500 ppm SO₂⁶
33	Onan 12ODJC	Schlumberger logging unit	Diesel	-	<ul style="list-style-type: none"> •20% Opacity^{3,4} •0.05 grains PM/SCF⁵ •500 ppm SO₂⁶
34	Lister ST3	Schlumberger vertical seismic profiler	Diesel	-	<ul style="list-style-type: none"> •20% Opacity^{3,4} •0.05 grains PM/SCF⁵ •500 ppm SO₂⁶
35	Lister ST3	Schlumberger vertical seismic profiler	Diesel	-	<ul style="list-style-type: none"> •20% Opacity^{3,4} •0.05 grains PM/SCF⁵ •500 ppm SO₂⁶
36	Onan 7.5DKDEJ	Halliburton Slickline generator	Diesel	-	<ul style="list-style-type: none"> •20% Opacity^{3,4} •0.05 grains PM/SCF⁵ •500 ppm SO₂⁶
37	Perkins 6.354	Halliburton Slickline hydraulic power	Diesel	-	<ul style="list-style-type: none"> •20% Opacity^{3,4} •0.05 grains PM/SCF⁵ •500 ppm SO₂⁶
38	Delmag D46-32	Drive hammer	Diesel	-	<ul style="list-style-type: none"> •20% Opacity^{3,4} •0.05 grains PM/SCF⁵ •500 ppm SO₂⁶
1-7, 10-16, and 19-38	SDC	All diesel fueled emissions units	Diesel	1,263,909 total gallons of diesel fuel combusted ¹	<ul style="list-style-type: none"> •Diesel Fuel Sulfur Content \leq 0.05% by weight²
8 and 9	Flare – P and Flare – S	Both flares	Well gas	96 total combined hours of operation ¹	-

EU ID	EU	EU Description	Fuel Type	Annual Operating Limit	Emission Limitations
28 and 29	Smart Ash II units	Garbage incinerators	Trash, domestic waste, and diesel	7200 hours combined hours of operation ¹	-
<p>Note of explanation regarding operating limits and emission limits.</p> <ol style="list-style-type: none"> 1. The restriction on annual hours of operation and annual fuel use is an owner-requested limit. Compliance is determined on a 12-month rolling average basis. 2. The diesel fuel sulfur content limit is an owner-requested limit. 3. Visibility through the exhaust effluent of the incinerator may not be reduced by visible emissions, excluding water vapor, by more than 20 percent (20% opacity) for a total of more than three minutes in any one hour per 18 AAC 50.050(a)(2). 4. Visible emissions, excluding condensed water vapor, from each stationary IC engine, each flare, each boiler, and the cuttings cleaning system may not reduce visibility through the exhaust effluent by greater than 20 percent (20% opacity) for a total of more than three minutes in any one hour, per 18 AAC 50.055(a)(1). 5. The particulate matter (PM) limit of 0.05 grains per standard cubic foot (SCF) is located at 18 AAC 50.055(b)(1). 6. The sulfur-compound limit (expressed as SO₂) of 500 ppm averaged over a period of three-hours is located at 18 AAC 50.055(c). 7. Visible emissions, excluding condensed water vapor, from each marine vessel fixed to the SDC may not reduce visibility through the marine vessel's exhaust effluent by greater than 20 percent (20% opacity), per 18 AAC 50.070. See 18 AAC 50.070 as many exceptions may apply. 					

2. EnCana shall notify the Environmental Protection Agency (EPA) in writing of any occurrence of an exceedance of an operational limitation or applicable requirement as specified in Condition 1 above; such notification shall be forwarded to EPA in writing in a timely fashion and in each instance no later than ten (10) calendar days from the date of such occurrence. The notification shall include an estimate of the resultant emissions and narrative report of the cause, date, time, duration and steps taken to correct the problem and avoid a recurrence. The notification should be sent to the EPA at the following address: EPA Region 10, Office of Air Quality, 1200 Sixth Avenue,

Seattle, WA 98101. EnCana shall contemporaneously send a copy of all such reports to the Alaska Department of Environmental Conservation (ADEC).

3. As approved and conditioned by this revised permit, any construction or operation of the OCS unit within the drilling area shall be in accordance with the description of operation of the facility as described in the applications which resulted in this permit issuance. Nothing in this revised permit shall be construed to relieve EnCana of its obligations under any state or federal laws including, but not limited to, Sections 114, 303, and 328 of the Clean Air Act.
4. Compliance with emission limitations shall be determined through a program of emission inventory calculations and testing as described below:
 - a. Compliance Demonstration
 - (1) Compliance with the 0.05 % fuel sulfur content limitation for the SDC shall be determined by one of the following methods: A) Upon each fuel delivery, EnCana shall obtain a representative sample of each fuel delivery and analyze the sample for sulfur content using ASTM D-129, D-2622, or D-4294; or B) EnCana may obtain a single certification of sulfur content for each shipment of fuel from the fuel supplier based on a test conducted by or for the fuel supplier, providing that the certification indicates that the sulfur content has been determined by one of the ASTM methods listed above. Certifications for fuel sulfur content shall be kept on site for the duration of this approval and made available to EPA upon request.
 - (2) Compliance with the 0.5 % fuel sulfur content limitation for the tugs shall be determined by one of the following methods: (a) EnCana may obtain a sample of each tug's fuel and analyze the sample for sulfur content by one of the ASTM methods listed above; or (b) EnCana may obtain a single certification of sulfur content from the fuel supplier of each tug's fuel based on a test conducted by or for the fuel supplier, providing that the certification indicates that the sulfur content has been determined by one of the ASTM methods listed above. Certifications for fuel sulfur content shall be kept on site for the duration of this approval and made available to EPA upon request.

- (3) Opacity of emissions exiting all emissions units shall be determined using EPA Reference Method 9 on at least one (1) occasion during the duration of the project.
- (4) Perform NO_x and CO emission source tests consistent with Condition 4.a.(5), 4.a.(6), and 4.a.(7) on one (1) of the Caterpillar D-399 engines as follows:
 - (A) Test the engine at 100 percent of peak load or maximum normal operating load and determine the hourly NO_x and CO mass emission rate (lb NO_x / hr, lb CO / hr); OR
 - (B) At 30, 50, 75, and 100 percent of peak load, or at four loads within the normal operating range including the minimum point in the range and the peak load and determine a fuel specific emission factor (lb NO_x / MMBtu fuel oil heat input, lb CO / MMBtu fuel oil heat input).
 - (C) Conduct NO_x and CO emission source test on the engine according to Condition 4.a.(4)(A) or (B) no later than March 15, 2003, if initial operation commences prior to March 15, 2003, or no later than March 15, 2004, if initial operation commences after March 14, 2003.
- (5) Determine site-specific and fuel specific NO_x and CO emission factors for each test load using exhaust properties determined by either Methods 1-4 or Method 19 of 40 CFR 60, Appendix A.
 - (A) Collect engine operational parameters during the tests.
 - (B) Measure fuel consumption rate for each source during test.
 - (C) If electing to use method 19,
 - (i) The unit must be equipped with a dedicated fuel flow meter accurate to plus or minus 2 percent error. Attach a copy of the fuel meter certification to the emission source test report.
 - (ii) Determine the Higher Heating Value of the fuel oil supplied to the unit using the applicable ASTM method. Attach a copy of the analysis to the emission source test report.
- (6) Conduct all NO_x and CO emission source testing required by this permit in accordance with methods and procedures specified in 40 CFR 60.

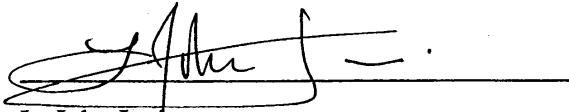
- (7) Standard exhaust gas volumes must only include the volume of gases formed from the theoretical combustion of fuel, plus the excess air volume normal for the specific source type, corrected to standard conditions (dry gas at 68°F and an absolute pressure of 760 millimeters of mercury.)
 - (8) Within 45 days of the initial NO_x and CO emission source test required by this permit, calculate and record the NO_x and CO potential to emit from all Caterpillar D-399 engines by applying the source test results from the tested engine. Use the worst-case-site-specific emission factor at worst case operations for each source and operational limits, if any. Use consistent heating values throughout the analysis. Attach the analysis of the potential to emit to the emission source test report required by Condition 4.c.(3).
- b. Monitoring and Recordkeeping Requirements
- (1) Prior to commencing operation, EnCana shall install, operate and maintain systems to monitor and record the hours of operation of the garbage incinerators and flares. Accurate operator logs shall be maintained to record the hours of operation of the garbage incinerators and flares.
 - (2) The level of fuel in each of the SDC's storage tanks shall be measured monthly and recorded. The amount of fuel used shall be calculated and recorded monthly. Accurate operator logs shall be maintained to record the fuel levels and calculations.
 - (3) A log shall be maintained to record any operating problems, which may cause air contaminant emissions to exceed normal rates. The date, time, duration, cause of the event and actions taken to prevent future occurrences shall be documented in the log.
 - (4) EnCana may submit proposed alternative monitoring procedures to EPA (EPA Region 10, Office of Air Quality, 1200 Sixth Avenue, Seattle, WA 98101) for consideration. EnCana may not deviate from the required monitoring procedures listed above before EPA approves alternative monitoring procedures in writing. EnCana shall maintain a copy of all such EPA approvals of alternative monitoring.

- (5) All monitoring records and logs required in Condition 4.b.(1) through (4) shall be maintained on site and shall be made available for inspection by EPA, Minerals Management Service (MMS) or ADEC upon request.

c. Reporting Requirements

- (1) Test plans. Before conducting any source tests, EnCana shall submit a plan to the EPA (EPA Region 10, Office of Air Quality, 1200 Sixth Avenue, Seattle, WA 98101). The plan must include the methods and procedures to be used for sampling, testing, and quality assurance, and must specify how the source will operate during the test and how EnCana will document this operation. A complete plan must be submitted within at least 30 days before the scheduled date of any test.
 - (2) Test notification. At least 10 days before conducting a source test, EnCana shall give EPA (EPA Region 10, Office of Air Quality, 1200 Sixth Avenue, Seattle, WA 98101) written notice of the date and time the source test will begin.
 - (3) Test reports. Within 45 days after completing a source test, EnCana shall submit two copies of the results, to the extent practical, in the format set out in the Source Test Report Outline of Volume III, Section IV.3, of the State Air Quality Control Plan, adopted by reference in 18 AAC 50.030(8). EnCana shall certify the results as set out in Condition 4.c.(4) of this permit.
 - (4) Certification. EnCana shall certify all reports, compliance certifications, or other documents submitted to EPA and required under this permit by including the signature of a responsible official for the permitted facility following the statement: "Based on information and belief formed after reasonable inquiry, I certify that the statements and information in and attached to this document are true, accurate, and complete."
5. Access to the source by EPA, MMS, ADEC, or authorized representatives/contractors will be permitted upon request. This right of access is in addition to and is not a limitation on the rights of access afforded by any statute, regulation, or other law.
 6. This approval expires on July 4, 2004.

7. Records required by this revised permit shall be maintained for 5 years and shall be made available to EPA, MMS, or ADEC upon request.


L. John Iani

Regional Administrator

Region 10

27 November 2002
Date



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY


REGION 10

1200 Sixth Avenue
Seattle, Washington 98101

NOV 26 2002

MEMORANDUM

SUBJECT: Final Determination Analysis Document for EnCana's Application for a Revision to OCS Construction Permit No. OCS 2002-01 for the McCovey Prospect

FROM: Dan Meyer 
Office of Air Quality (OAQ - 107)

TO: Files

SCOPE

This document presents EPA's final determination to approve EnCana Oil & Gas (USA) Inc. ("EnCana")'s proposal to revise OCS construction permit No. OCS 2002-01 issued May 29, 2002. The existing permit enables EnCana to conduct oil and gas exploration activities in the McCovey Unit ("McCovey"), Beaufort Sea under authority of Section 328 of the Clean Air Act ("Act"). 42 U.S.C. 7401, *et seq.* Note, EnCana Corporation was created on April 5, 2002, by the merger of Alberta Energy Corporation Ltd. (AEC) and PanCanadian Energy Corporation.

GENERAL INFORMATION

On May 29, 2002, EPA issued an OCS construction permit to EnCana to conduct exploratory oil and gas drilling at McCovey. The permit became effective July 4, 2002.

EnCana has now assembled its mobile offshore drilling unit at the exploration site in preparation for drilling this winter. The OCS permit allows for exploratory drilling either this winter or next.

On November 14, 2002, EPA received, via e-mail and facsimile, an application from EnCana for a revision to the permit (Attachment 1). EnCana is requesting permission to operate 22 new emission units in addition to the original 20 emission units already permitted. The emission units primarily consist of diesel-fired internal combustion engines. Based primarily upon EnCana's new projected hours of operation for all 42 emission units and its commitment to stay within the existing facility-wide diesel fuel usage limit, EnCana does not anticipate air emissions to increase. EnCana is also requesting an increase in the permitted hours of operation for the existing garbage incinerator, a reduction in the permitted hours of operation for the existing flares, and a permit condition limiting the hours of operation for two new garbage incinerators

EMISSIONS INVENTORY

The November 14, 2002, application provides a revised list of SDC emission units (absent the two supply tugs) and projected annual emissions on a unit-by-unit basis. The SDC consists of 36

stationary combustion sources along with 4 mobile combustion sources.

EnCana has revised the SDC's projected potential emissions based upon the following information presented in the application for permit revision:

- projected annual hours of operation,
- annual limit on hours of operation for three incinerators and two flares, and
- annual diesel fuel usage cap.

The operating projections and requested operating restrictions for previously permitted SDC equipment (absent the two supply tugs) are presented in Table 1.

Table 1

EU ID	EU	Original Projected Annual Hours of Operation	Revised Projected Annual Hours of Operation	Operating Restriction in Revised Permit
1 - 7	Caterpillar D-399 Engines	17720	15500	Facility-wide Diesel Fuel Usage Cap
8 - 9	Flares P & S	504	96	Combined Hours of Operation
10	GM 12V71 Engine	240	1250	Facility-wide Diesel Fuel Usage Cap
11	GM 12V71 Engine	240	240	Facility-wide Diesel Fuel Usage Cap
12	GM 6V71 Engine	240	60	Facility-wide Diesel Fuel Usage Cap
13	Lister Boiler	2920	3500	Facility-wide Diesel Fuel Usage Cap
14	Lister Boiler w/Saacke Burner	2920	900	Facility-wide Diesel Fuel Usage Cap
15	Atlas MAX50S	240	500	Hours of Diesel Fuel Usage, Facility-wide Diesel Fuel Usage Cap
16	Cuttings Cleaning System	240	200	Facility-wide Diesel Fuel Usage Cap
-	MBLC- Mobile Source	240	400	-
-	FRKL - Mobile Source	240	900	-

The operating projections and requested operating restrictions for previously unpermitted SDC equipment are presented in Table 2.

Table 2

EU ID	EU	Projected Hours of Operation	Operating Restriction in Revised Permit
19	Lister Air Heater	1500	Facility-wide Diesel Fuel Usage Cap
20	MAC Chinook 800	1000	Facility-wide Diesel Fuel Usage Cap
21	Kubota D905	1000	Facility-wide Diesel Fuel Usage Cap
22	MAC Chinook 800	1000	Facility-wide Diesel Fuel Usage Cap
23	Kubota D905	1000	Facility-wide Diesel Fuel Usage Cap
24	Halliburton Line Heater	600	Facility-wide Diesel Fuel Usage Cap
25 - 27	Herman Nelson	100	Facility-wide Diesel Fuel Usage Cap
28 - 29	Smart Ash II	7200	Combined Hours of Operation, Facility-wide Diesel Fuel Usage Cap
30	Twin Detroit 8V71's	500	Facility-wide Diesel Fuel Usage Cap
31	Detroit 4-71	150	Facility-wide Diesel Fuel Usage Cap
32	Hatz A239	150	Facility-wide Diesel Fuel Usage Cap
33	Onan 12ODJC	150	Facility-wide Diesel Fuel Usage Cap
34 - 35	Lister ST3	100	Facility-wide Diesel Fuel Usage Cap
36	Onan 7.5DKDEJ	30	Facility-wide Diesel Fuel Usage Cap
37	Perkins 6.354	30	Facility-wide Diesel Fuel Usage Cap
38	Delmag D46-32	100	Facility-wide Diesel Fuel Usage Cap

EU ID	EU	Projected Hours of Operation	Operating Restriction in Revised Permit
-	DOZER- Mobile Source	100	-
-	BOB - Mobile Source	700	-

Given the operating projections and requested operating restrictions, EnCana indicates that SDC emissions will be less than originally anticipated as presented in Table 3. Note, unit-by-unit emissions are presented in the addendum to EnCana's November 14, 2002 application.

Table 3
SDC Operation Emissions (Tons/Yr)

	NO _x	CO	PM ₁₀	SO ₂	VOC
Original Projection	123.71	34.88	8.39	5.61	22.74
Revised Projection	123.36	16.55	8.25	4.93	22.74
Change	-0.35	-18.33	-0.14	-0.68	-10.06

DETERMINATION OF PSD APPLICABILITY

The applicable potential emissions threshold under Alaska's prevention of significant deterioration (PSD) program for a non-designated new facility is 250 tons per year of a regulated air pollutant pursuant to 18 AAC 50.300(c). As shown in Table 3 in the above section, the estimated potential emissions of each pollutant from SDC-related activity remains less than 250 tons per year. Therefore, the McCovey project is not subject to the requirements of the State of Alaska PSD program as approved in the Alaska Implementation Plan (40 CFR 52, Subpart C).

OCS CONSISTENCY WITH ADEC RULES

Pursuant to a final rulemaking published in the Federal Register on March 27, 2002 (67 FR 14646), the EPA's OCS regulations are consistent with ADEC's rules effective July 2, 2000.

A correction to the final rulemaking was required due to an error in the "effective date" language of the published final rule. On April 8, 2002, L. John Iani signed a final rulemaking to correct the error, and the final rulemaking correction was subsequently published in the federal register on April 26, 2002 (67 FR 20651). The effective date of the consistency update is April 26, 2002.

AMBIENT AIR QUALITY IMPACT ANALYSIS

No modeling beyond that conducted for the original permit was conducted to support EnCana's application for permit revision. As noted in EnCana's November 14, 2002, application,

The change in the mix of sources and operating conditions is not expected to increase the NO_x impacts (the only pollutant needing an impact evaluation for the current permit) to levels above the National Ambient Air Quality Standards, which for NO_x consists of an annual standard. The resultant impact will not approach the standard because there will be no increase in emissions and the impact estimate provided in January was only two-thirds of the NO_x standard. Furthermore, the January modeling effort used "screening dispersion meteorology" which tends to result in conservatively high impact assessments.

Since NO_x is the only pollutant of significance, and NO_x is an issue only as an annual impact, there is no need to limit the hourly emission rates, only the annual rates, as is the case with the current permit.

Alaska DGC Consistency Review

The State of Alaska Division of Governmental Coordination (DGC) has reviewed the revised emissions inventory, and the DGC has determined that an additional consistency review is not needed (Attachment 2).

FINDINGS

1. EnCana proposes to conduct exploratory oil and gas drilling in the OCS near-shore waters of the Beaufort Sea at the McCovey Prospect exploration site (the site hereafter referred to as "McCovey"), north-northeast of the Midway Islands, in the vicinity of Prudhoe Bay, Alaska. Exploratory drilling will be conducted from November 2002 through March 2003, and / or, from November 2003 through March 2004.
2. EnCana proposes to utilize the Steel Drilling Caisson/Mat drilling facility (the facility hereafter referred to as "SDC") to conduct the exploration activities at the McCovey site.
3. The SDC is classified as an ambient air quality facility under 18 AAC 50.300(b) because each of its two flares has a rated capacity of greater than 100 MMBtu per hour.
4. Due to the SDC's classification as a facility having the potential to violate one or more of the ambient air quality standards (AAQS), EnCana is required to obtain a construction permit pursuant to 18 AAC 50.300(b).
5. EnCana has requested operating restrictions for SDC so as to limit its potential to emit air pollution and thus avoid interfering with the attainment or maintenance of the AAQS in the area of impact. To accommodate EnCana's request, EPA is restricting the following operations of the SDC through this permitting action: (a) annual quantity of diesel fuel combusted by all emissions units, (b) sulfur content of the diesel fuel being combusted, (c) annual hours of operation for the test flares, two of the garbage incinerators, and tugs while physically attached to the SDC, and (d) annual hours of diesel fuel combustion for one of the garbage incinerators.
6. In order to further limit SDC's potential to emit air pollution and thus avoid interfering with the attainment or maintenance of the AAQS in the area of impact, EPA is restricting the following operations of marine vessels physically attached to the SDC through this permitting action: (a) sulfur content of the diesel fuel being combusted and (b) annual

- hours of operation.
7. EnCana conducted an analysis to determine the SDC and its related activity's potential emissions utilizing fuel use limits and limits on hours of operation. EnCana assumed that all emissions units were operated at their respective maximum rated hourly capacities over a projected operating period specific to each unit. EnCana also assumed that all diesel fuel fired had a maximum allowable sulfur content. The projected maximum allowable emissions as calculated by EnCana are presented here: nitrogen oxides (NO_x) – 153.65 tons per year (TPY), carbon monoxide (CO) – 23.49 TPY, respirable particulate matter (PM₁₀) – 9.13 TPY, sulfur dioxide (SO₂) – 10.04 TPY, volatile organic compound (VOC) – 23.63 TPY, and lead (Pb) – 0.3 pounds per year (0.00015 TPY).
 8. Projected allowable emissions of NO_x from the SDC and related activities exceed 40 TPY given the terms of the proposed construction approval. Pursuant to 18 AAC 50.310(n), EnCana is required to demonstrate that allowable NO_x emissions from the facility will not interfere with attainment or maintenance of the AAQS for NO₂.
 9. Pursuant to 18 AAC 50.310(n), EnCana is not required to make such an air quality demonstration for PM₁₀, SO₂, and Pb as allowable emissions from the facility, including emissions from the SDC and its related activity, do not exceed, respectively 15 TPY, 40 TPY or 0.6 TPY. The above provision does not provide for any ambient air quality demonstration due to CO or VOC emissions.
 10. EnCana conducted an ambient air impact analysis of the original emissions inventory included in the May 29, 2002, permit to demonstrate that allowable emissions from the facility will not interfere with attainment or maintenance of the AAQS for NO₂.
 11. This revised permit will expire on July 4, 2004. Therefore, the SDC is a “temporary construction activity” as defined in 18 AAC 50.990(92) and exempt from the requirement to demonstrate that allowable emissions from the facility will not interfere with maximum allowable ambient concentrations.
 12. EnCana did not conduct an ambient air impact analysis to demonstrate that allowable emissions from the facility will not interfere with maximum allowable ambient concentrations.
 13. Air pollution emissions from EnCana are regulated by the state of Alaska requirements applicable to OCS sources, July 2, 2000, (40 CFR Part 55, Appendix A) and the Alaska Implementation Plan (40 CFR Part 52, Subpart C). Conditions within this permit are consistent with the above regulations.
 14. No proposed emissions unit at the SDC is subject to either the New Source Performance Standards (40 CFR Part 60) or the National Emissions Standards for Hazardous Air Pollutants (40 CFR Part 61 and 63).
 15. EPA is permitting SDC to operate with maximum projected allowable emissions of: NO_x – 123.36 TPY, CO – 16.55 TPY, PM₁₀ – 8.25 TPY, SO₂ – 4.93 TPY, VOC – 22.74 TPY, and Pb – 0.3 pounds per year (0.00015 TPY).
 16. On August 7, 2002, EnCana notified EPA of commencement of construction and startup of the facility as required under Condition 5 of the original permit.

Accordingly, it is hereby determined that, subject to the conditions set forth below, EnCana is

permitted to conduct exploratory oil and gas drilling using the SDC/Mat drilling facility at the McCovey Prospect exploratory site, as described in the permit applications submitted on January 30, 2002, February 21, 2002, March 8, 2002, and November 14, 2002.

APPROVAL CONDITIONS

EPA is revising the emissions unit table in Approval Condition 1 as follows:

EU ID	EU	EU Description	Fuel Type	Annual Operating Limit	Emission Limitations
1	Caterpillar D-399 Engine	Drilling Main Engine #1	Diesel	-	•20% Opacity ^{3,4} •0.05 grains PM/SCF ⁵ •500 ppm SO ₂ ⁶
2	Caterpillar D-399 Engine	Drilling Main Engine #2	Diesel	-	•20% Opacity ^{3,4} •0.05 grains PM/SCF ⁵ •500 ppm SO ₂ ⁶
3	Caterpillar D-399 Engine	Drilling Main Engine #3	Diesel	-	•20% Opacity ^{3,4} •0.05 grains PM/SCF ⁵ •500 ppm SO ₂ ⁶
4	Caterpillar D-399 Engine	Drilling Main Engine #4	Diesel	-	•20% Opacity ^{3,4} •0.05 grains PM/SCF ⁵ •500 ppm SO ₂ ⁶
5	Caterpillar D-399 Engine	Drilling Main Engine #5	Diesel	-	•20% Opacity ^{3,4} •0.05 grains PM/SCF ⁵ •500 ppm SO ₂ ⁶
6	Caterpillar D-399 Engine	Drilling Main Engine #6	Diesel	-	•20% Opacity ^{3,4} •0.05 grains PM/SCF ⁵ •500 ppm SO ₂ ⁶
7	Caterpillar D-399 Engine	Drilling Main Engine #7	Diesel	-	•20% Opacity ^{3,4} •0.05 grains PM/SCF ⁵ •500 ppm SO ₂ ⁶
8	Flare - P	Flare on the Port Side	Well gas	See limit at end of table	•20% Opacity ^{3,4} •0.05 grains PM/SCF ⁵ •500 ppm SO ₂ ⁶
9	Flare - S	Flare on the Starboard Side	Well gas	See limit at end of table	•20% Opacity ^{3,4} •0.05 grains PM/SCF ⁵ •500 ppm SO ₂ ⁶

EU ID	EU	EU Description	Fuel Type	Annual Operating Limit	Emission Limitations
10	GM 12V71 Engine	Port Crane Engine	Diesel	-	<ul style="list-style-type: none"> •20% Opacity^{3,4} •0.05 grains PM/SCF⁵ •500 ppm SO₂⁶
11	GM 12V71 Engine	Starboard Crane Engine	Diesel	-	<ul style="list-style-type: none"> •20% Opacity^{3,4} •0.05 grains PM/SCF⁵ •500 ppm SO₂⁶
12	GM 6V71 Engine	Aft Crane Engine	Diesel	-	<ul style="list-style-type: none"> •20% Opacity^{3,4} •0.05 grains PM/SCF⁵ •500 ppm SO₂⁶
13	Lister Boiler	Hot water boiler	Diesel	-	<ul style="list-style-type: none"> •20% Opacity^{3,4} •0.05 grains PM/SCF⁵ •500 ppm SO₂⁶
14	Lister Boiler w/Saacke Burner	Hot water boiler	Used oils from SDC equipment and diesel	-	<ul style="list-style-type: none"> •20% Opacity^{3,4} •0.05 grains PM/SCF⁵ •500 ppm SO₂⁶
15	Atlas MAX50S	Garbage incinerator	Trash, domestic waste, and diesel	500 240 hours combusting diesel fuel ¹	<ul style="list-style-type: none"> •20% Opacity^{3,4}
16	Cuttings Cleaning System	Volcano burner fitted to a rotary dryer	Diesel	-	<ul style="list-style-type: none"> •20% Opacity^{3,4} •0.05 grains PM/SCF⁵ •500 ppm SO₂⁶
17	DST	Drilling supply tug physically attached to SDC	Diesel	264 hours ¹	<ul style="list-style-type: none"> •20% Opacity⁷ •Diesel Fuel Sulfur Content ≤ 0.5 % by weight²
18	FST	Fuel supply tug physically attached to SDC	Diesel	100 hours ¹	<ul style="list-style-type: none"> •20% Opacity⁷ •Diesel Fuel Sulfur Content ≤ 0.5 % by weight²
19	Lister Air Heater	Indirect fired hot-air heater	Diesel	-	<ul style="list-style-type: none"> •20% Opacity^{3,4} •0.05 grains PM/SCF⁵ •500 ppm SO₂⁶

EU ID	EU	EU Description	Fuel Type	Annual Operating Limit	Emission Limitations
20	MAC Chinook 800	Indirect fired hot-air heater	Diesel	-	•20 % Opacity ^{3,4} •0.05 grains PM/SCF ⁵ •500 ppm SO ₂ ⁶
21	Kubota D905	Diesel engine to power MAC Chinook 800	Diesel	-	•20 % Opacity ^{3,4} •0.05 grains PM/SCF ⁵ •500 ppm SO ₂ ⁶
22	MAC Chinook 800	Indirect fired hot-air heater	Diesel	-	•20 % Opacity ^{3,4} •0.05 grains PM/SCF ⁵ •500 ppm SO ₂ ⁶
23	Kubota D905	Diesel engine to power MAC Chinook 800	Diesel	-	•20 % Opacity ^{3,4} •0.05 grains PM/SCF ⁵ •500 ppm SO ₂ ⁶
24	Halliburton Line Heater	Heats the piping during well testing	Diesel	-	•20 % Opacity ^{3,4} •0.05 grains PM/SCF ⁵ •500 ppm SO ₂ ⁶
25	Herman Nelson	Hot-air heater	Diesel	-	•20 % Opacity ^{3,4} •0.05 grains PM/SCF ⁵ •500 ppm SO ₂ ⁶
26	Herman Nelson	Hot-air heater	Diesel	-	•20 % Opacity ^{3,4} •0.05 grains PM/SCF ⁵ •500 ppm SO ₂ ⁶
27	Herman Nelson	Hot-air heater	Diesel	-	•20 % Opacity ^{3,4} •0.05 grains PM/SCF ⁵ •500 ppm SO ₂ ⁶
28	Smart Ash II	Garbage incinerator	Trash, domestic waste, and diesel	See limit at end of table	•20 % Opacity ^{3,4}

EU ID	EU	EU Description	Fuel Type	Annual Operating Limit	Emission Limitations
29	Smart Ash II	Garbage incinerator	Trash, domestic waste, and diesel	See limit at end of table	•20% Opacity ^{3,4}
30	Twin Detroit 8V71's	Halliburton cement pump	Diesel	-	•20% Opacity ^{3,4} •0.05 grains PM/SCF ⁵ •500 ppm SO ₂ ⁶
31	Detroit 4-71	Schlumberger logging unit	Diesel	-	•20% Opacity ^{3,4} •0.05 grains PM/SCF ⁵ •500 ppm SO ₂ ⁶
32	Hatz A239	Schlumberger GPS unit	Diesel	-	•20% Opacity ^{3,4} •0.05 grains PM/SCF ⁵ •500 ppm SO ₂ ⁶
33	Onan 12ODJC	Schlumberger logging unit	Diesel	-	•20% Opacity ^{3,4} •0.05 grains PM/SCF ⁵ •500 ppm SO ₂ ⁶
34	Lister ST3	Schlumberger vertical seismic profiler	Diesel	-	•20% Opacity ^{3,4} •0.05 grains PM/SCF ⁵ •500 ppm SO ₂ ⁶
35	Lister ST3	Schlumberger vertical seismic profiler	Diesel	-	•20% Opacity ^{3,4} •0.05 grains PM/SCF ⁵ •500 ppm SO ₂ ⁶
36	Onan 7.5DKDE J	Halliburton Slickline generator	Diesel	-	•20% Opacity ^{3,4} •0.05 grains PM/SCF ⁵ •500 ppm SO ₂ ⁶
37	Perkins 6.354	Halliburton Slickline hydraulic power	Diesel	-	•20% Opacity ^{3,4} •0.05 grains PM/SCF ⁵ •500 ppm SO ₂ ⁶

EU ID	EU	EU Description	Fuel Type	Annual Operating Limit	Emission Limitations
38	Delmag D46-32	Drive hammer	Diesel	-	•20% Opacity ^{3,4} •0.05 grains PM/SCF ⁵ •500 ppm SO ₂ ⁶
1-7, 10-16 and 19-38	SDC	All diesel fueled emissions units	Diesel	1,263,909 total gallons of diesel fuel combusted ¹	•Diesel Fuel Sulfur Content ≤ 0.05% by weight ²
8 and 9	Flare – P and Flare – S	Both flares	Well gas	504 96 total combined hours of operation ¹	-
28 and 29	Smart Ash II units	Garbage incinerators	Trash, domestic waste, and diesel	7200 hours combined hours of operation ¹	-

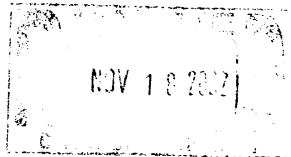
Note of explanation regarding operating limits and emission limits.

1. The restriction on annual hours of operation and annual fuel use is an owner-requested limit. Compliance is determined on a 12-month rolling average basis.
2. The diesel fuel sulfur content limit is an owner-requested limit.
3. Visibility through the exhaust effluent of the incinerator may not be reduced by visible emissions, excluding water vapor, by more than 20 percent (20% opacity) for a total of more than three minutes in any one hour per 18 AAC 50.050(a)(2).
4. Visible emissions, excluding condensed water vapor, from each stationary IC engine, each flare, each boiler, and the cuttings cleaning system may not reduce visibility through the exhaust effluent by greater than 20 percent (20% opacity) for a total of more than three minutes in any one hour, per 18 AAC 50.055(a)(1).
5. The particulate matter (PM) limit of 0.05 grains per standard cubic foot (SCF) is located at 18 AAC 50.055(b)(1).
6. The sulfur-compound limit (expressed as SO₂) of 500 ppm averaged over a period of three-hours is located at 18 AAC 50.055(c).
7. Visible emissions, excluding condensed water vapor, from each marine vessel fixed to the SDC may not reduce visibility through the marine vessel's exhaust effluent by greater than 20 percent (20% opacity), per 18 AAC 50.070. See 18 AAC 50.070 as many exceptions may apply.

List of Attachments

1. EnCana November 14, 2002, application for a permit revision
2. November 22, 2002, e-mail from Glenn Gray of the Alaska DGC

ATTACHMENT 1



November 14, 2002

Mr. Dan Meyer
U.S. EPA
1200 Sixth Avenue
Seattle, WA 98101

Re: EnCana McCovey Project #OCS 2002-01 – Request to Change Approval Condition No. 1

Dear Mr. Meyer,

EnCana is in receipt of the captioned permit from EPA Region 10 for the McCovey Prospect, located on the Outer Continental Shelf, Beaufort Sea, Alaska. With final preparations to begin use of the drill platform, EnCana has determined that the mix of the insignificant sources and source usage needs to be updated, and is herewith requesting the captioned change.

This change in the source inventory will result in no increase in facility-wide emissions, and will not affect the current fuel-use limits. With the resulting inventory, the facility will remain a minor source by PSD review definition. EnCana is requesting that the original list of sources and source conditions, which is part of Approval Condition No. 1, be replaced with the attached list of sources and source conditions.

The new emission units are required for specific tasks, several of which are for relatively short duration. The proposed source inventory change involves the trading of emissions among equipment already permitted for an unnecessarily large amount of use, such as the main diesel-powered generators and flares, and other necessary but not previously listed equipment such as heater units for providing personnel environmental heat and mobile generator units. For the most part, the trades are in fuel consumption between types of equipment and hours of equipment usage with the net result that less fuel consumption is anticipated. There are also minor changes in the mix of emissions among diesel-consuming sources, field-gas consuming sources and trash-consuming sources. The net result is an inventory of emissions within the initially permitted maximum allowable rates (listed in Findings No. 15). The attached spreadsheet now describes the inventory of all sources in a manner comparable to the January 2002 application, so that the differences in sources, usages and emissions by source can be easily determined.

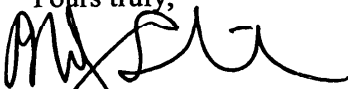
The change in the mix of sources and operating conditions is not expected to increase the NOx ambient impacts (the only pollutant needing an impact evaluation for the current permit) to levels above the National Ambient Air Quality Standards, which for NOx consists of an annual standard. The resultant impact will not approach the standard because there will be no increase in emissions and the impact estimate provided in January was only two-thirds of the NOx standard. Furthermore, the January modeling effort used "screening dispersion meteorology" which tends to result in conservatively high impact estimates.

Mr. Dan Meyer
U.S. EPA
November 14, 2002
Page 2

Since NOx is the only pollutant of significance, and NOx is an issue only as an annual impact, there is no need to limit the hourly emission rates, only the annual rates, as is the case with the current permit.

Your approval of this change to Approval Condition No. 1 would be greatly appreciated. We appreciate your consultation and coordination regarding this issue. If EnCana can provide any additional information to assist you, please contact me or Gene Pavia at 907-277-4611.

Yours truly,

A handwritten signature in black ink, appearing to read 'MJS', with a large circular flourish at the end.

Mark J. Schindler
For the Benefit of EnCana Oil & Gas (USA) Inc.

Attachments

dmf/mjs



CALCULATIONS

DENVER • ARLAND

PROJECT TITLE:

McCovey - Addendum

BY:

D. Young

PROJECT NO:

180-4-1

PAGE:

1

OF:

3

SHEET:

1

SUBJECT:

Source Description

DATE:

November 14, 2002

SOURCE DESCRIPTION - SDC FACILITY

Source Information

Source Description

Size, Manufacturer, Model

Source ID

Stationary Sources

IC engines generate power for the drilling operation, work, and living areas.

	1125hp Caterpillar D-399	ENG1, thru 7
Flaring of the gas released during drilling and testing	5MMCF/day Flare	FLR Port
Flaring of the gas released during drilling and testing	5MMCF/day Flare	FLR Starbd
IC engine powers the port-side fixed crane	556hp GM 12V71T	PRTC
IC engine powers the starboard-side fixed crane	485hp GM 12V71T	STBC
IC engine powers the aft fixed crane	180hp GM 6V71	AFTC
Boiler that provides heat to the work and living areas	4.5MMBtu/hr Lister, 100 hp boiler	BLR1
Boiler that provides heat to the work and living areas	4.5MMBtu/hr Lister, 100 hp boiler w/Saacke burner	BLR2
Indirect fired hot-air heater for space heating	4MMBtu/hr Lister, Air Heater	LAH
Indirect fired hot-air heater for space heating	0.8MMBtu/hr MAC, Chinook 800	MAC1
Indirect fired hot-air heater for space heating	0.8MMBtu/hr MAC, Chinook 800	MAC2
Engine that provides power to a Chinook 800	20hp Kubota, D905	MACP1
Engine that provides power to a Chinook 800	20hp Kubota, D905	MACP2
Halliburton Line Heater used during well testing	2.1MMBtu/hr Halliburton, Line Heater	HLH
Herman Nelson heaters for space heating	0.1MMBtu (each)/hr Herman Nelson	HN1, 2, & 3
Incinerator used to combust the trash and garbage	100kg/hr Atlas, MAX 50S	INCR
Incinerator used to combust the trash and garbage	50lb/hr Smart Ash, II	SA1
Incinerator used to combust the trash and garbage	50lb/hr Smart Ash, II	SA2
Volatilization unit used to clean the cuttings	4MMBtu/hr Volcano burner fitted to a rotary dryer	CCS
Halliburton cement pump	330hp Twin Detroit, 8V71's	HCP
Schlumberger Logging Unit - Detroit engine	142hp Detroit, 4-71	SLU-Detroit
Schlumberger GPS power - Hatz engine	66hp Hatz, A239190008	SLU-Hatz
Schlumberger Logging Unit - Onan engine	66hp Onan, 12.ODJC-1E	SLU-Onan
Schlumberger Vertical Seismic Profilers	26hp (each) Lister, ST3	VSP1 & 2
Halliburton Slickline, Generator	14hp Onan, 7.5DKDEJ	HSG
Halliburton Slickline, Hydraulic Power	155hp Perkins 6.354, TW33425	HSH
Delmag Drive Hammer	81equivalent hp Delmag (drive hammer), D46-32	DDH

Mobile sources

FMC - Mobile crane	137hp GM 4-53N	MBLC
Forklift	86hp Caterpillar 3304-NA	FRKL
Caterpillar bulldozer	80hp Caterpillar 3046	DOZER
Bobcat fork-frame	43.5hp Bobcat	BOB



AIR SCIENCES INC.

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CALCULATIONS

PROJECT TITLE:

McCovey - Addendum

BY:

D. Young

PROJECT NO:

180-4-1

PAGE:

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3

SHEET:

1

SUBJECT:

Emission Summary

DATE:

November 14, 2002

EMISSIONS SUMMARY - SDC FACILITY

Source Information

Source ID Stack ID Category/Description

Annual Emissions (ton/yr)

NOx CO PM SO2 VOC

Stationary Sources

ENG1, thru 7	1 thru 7	1125hp Caterpillar D-399	99.37	6.92	6.10	3.53	6.15
FLR Port	8	5MMCF/day Flare	0.374	2.035	0.038	0.009	0.770
FLR Starbd	9	5MMCF/day Flare	0.374	2.035	0.038	0.009	0.770
PRTC	10	556hp GM 12V71T	10.77	2.32	0.76	0.14	0.87
STBC	11	485hp GM 12V71T	1.80	0.39	0.13	0.02	0.15
AFTC	12	180hp GM 6V71	0.167	0.036	0.012	0.002	0.014
BLR1	13	4.5MMBtu/hr Lister, 100 hp boiler	1.150	0.287	0.115	0.414	0.032
BLR2	14	4.5MMBtu/hr Lister, 100 hp boiler w/Saacke burner	0.296	0.074	0.030	0.106	0.008
LAH	19	4MMBtu/hr Lister, Air Heater	0.44	0.11	0.04	0.16	0.01
MAC1	20	0.8MMBtu/hr MAC, Chinook 800	0.058	0.015	0.006	0.021	0.002
MAC2	22	0.8MMBtu/hr MAC, Chinook 800	0.058	0.015	0.006	0.021	0.002
MACP1	21	20hp Kubota, D905	0.010	0.003	0.001	0.004	0.0003
MACP2	23	20hp Kubota, D905	0.010	0.003	0.001	0.004	0.0003
HLH	24	2.1MMBtu/hr Halliburton, Line Heater	0.090	0.023	0.009	0.032	0.003
HN1, 2, & 3	26, 26, 27	0.1MMBtu (each)/hr Herman Nelson (All three units)	0.00073	0.00018	0.00007	0.00026	0.00002
INCR	15	100kg/hr Atlas, MAX 50S	0.08	0.28	0.19	0.07	0.08
SA1	28	50lb/hr Smart Ash, II	0.20	0.15	0.10	0.08	0.01
SA2	29	50lb/hr Smart Ash, II	0.20	0.15	0.10	0.08	0.01
CCS	16	4MMBtu/hr Volcano burner fitted to a rotary dryer	0.06	0.01	0.01	0.02	13.23
HCP	30	330hp Twin Detroit, 8V71's	5.12	1.10	0.36	0.07	0.41
SLU-Detroit	31	142hp Detroit, 4-71	0.330	0.071	0.023	0.004	0.027
SLU-Hatz	32	66hp Hatz, A239190008	0.153	0.033	0.011	0.002	0.012
SLU-Onan	33	66hp Onan, 12.ODJC-1E	0.153	0.033	0.011	0.002	0.012
VSP1 & 2	34, 35	26hp (each) Lister, ST3 (All two units)	0.040	0.009	0.003	0.0005	0.003
HSG	36	14hp Onan, 7.5DKDEJ	0.007	0.001	0.000	0.000	0.001
HSH	37	155hp Perkins 6.354, TW33425	0.072	0.016	0.005	0.001	0.006
DDH	38	81equivalent hp Delmag (drive hammer), D46-32	0.126	0.027	0.009	0.002	0.010
Subtotal			121.31	16.11	8.10	4.79	22.58

Mobile sources

MBLC	-	137hp GM 4-53N	0.85	0.18	0.06	0.06	0.07
FRKL	-	86hp Caterpillar 3304-NA	1.20	0.26	0.09	0.08	0.10
DOZER	-	80hp Caterpillar 3046	0.124	0.03	0.01	0.01	0.01
BOB	-	43.5hp Bobcat	0.47	0.10	0.03	0.03	0.04
Subtotal			2.05	0.44	0.15	0.14	0.17

Hazardous Air Pollutants

Total Emissions 123.36 16.55 8.25 4.93 22.74

SDC Combustion Source	ton/yr
Well gas	0.019
Large diesel engines	0.099
Small diesel engines	0.034
Non-IC engines	0.008
Total HAPS	0.151



AIR SCIENCES INC.

HENVER • PORTLAND

CALCULATIONS

PROJECT TITLE:

McCovey - Addendum

BY:

D. Young

PROJECT NO:

180-4-1

PAGE:

3

OF:

3

SHEET:

1

SUBJECT:

Operational Limits

DATE:

November 14, 2002

SUMMARY OF THROUGHPUTS AND USAGES, & OPERATIONAL LIMITS

ID	Operating hours	Diesel Fuel use	
	Yearly	gal/hour*	gal/year**
<u>Electric Generators</u>			
ENG1, thru 7	15500	59.04	915,160
<u>Miscellaneous Sources</u>			
PRTC	1250	29.90	37,375
STBC	240	26.20	6,288
AFTC	60	9.60	576
BLR1	3500	32.85	114,964
BLR2	900	32.85	29,562
LAH	1500	29.20	43,796
MAC1	1000	5.84	5,839
MAC2	1000	5.84	5,839
MACP1	1000	1.05	1,050
MACP2	1000	1.05	1,050
HLH	600	15.00	9,000
HN1, 2, & 3	100	0.73	73
SA1 & SA2	7200	2.10	15,120
CCS	200	29.20	5,839
HCP	500	34.64	17,319
SLU-Detroit	150	7.45	1,118
SLU-Hatz	150	3.46	520
SLU-Onan	150	3.46	520
VSP1 & 2	100	1.36	136
HSG	30	0.90	27
HSH	30	6.60	198
DDH	100	4.23	423
MBLC	400	8.30	3,320
FRKL	900	4.51	4,062
DOZER	100	4.20	420
BOB	700	2.28	1,598

1,263,909 total gallons of diesel fuel consumed annually
0.05% sulfur by weight

Maximum fuel use

1,221,191 total gallons of diesel fuel consumed annually

*Gallons per hour per emissions unit.

**Gallons per year from operating hours per year and the hourly fuel use.

	<u>Operating hours</u>	<u>Field Gas</u>
	<u>Yearly</u>	<u>million cubic feet</u>
FLR Port	48	20
FLR Starbrd	48	20

96 hours per year of combined flare usage

	<u>Operating hours</u>	<u>Trash</u>
	<u>Yearly</u>	<u>tons per year</u>
INCR	500	55.0
SA1	3600	90.0
SA2	3600	90.0

500 hours per year of Atlas Incinerator burning diesel

7,200 hours per year of Smart Ash incinerator usage

EU ID	EU	EU Description	Fuel Type	Annual Operating Limit	Emission Limitations
1	Caterpillar D-399 Engine	Drilling Main Engine #1	Diesel	-	•20% Opacity ^{3,4} •0.05 grains PM/SCF ⁵ •500 ppm SO ₂ ⁶
2	Caterpillar D-399 Engine	Drilling Main Engine #2	Diesel	-	•20% Opacity ^{3,4} •0.05 grains PM/SCF ⁵ •500 ppm SO ₂ ⁶
3	Caterpillar D-399 Engine	Drilling Main Engine #3	Diesel	-	•20% Opacity ^{3,4} •0.05 grains PM/SCF ⁵ •500 ppm SO ₂ ⁶
4	Caterpillar D-399 Engine	Drilling Main Engine #4	Diesel	-	•20% Opacity ^{3,4} •0.05 grains PM/SCF ⁵ •500 ppm SO ₂ ⁶
5	Caterpillar D-399 Engine	Drilling Main Engine #5	Diesel	-	•20% Opacity ^{3,4} •0.05 grains PM/SCF ⁵ •500 ppm SO ₂ ⁶
6	Caterpillar D-399 Engine	Drilling Main Engine #6	Diesel	-	•20% Opacity ^{3,4} •0.05 grains PM/SCF ⁵ •500 ppm SO ₂ ⁶
7	Caterpillar D-399 Engine	Drilling Main Engine #7	Diesel	-	•20% Opacity ^{3,4} •0.05 grains PM/SCF ⁵ •500 ppm SO ₂ ⁶
8	Flare - P	Flare on the Port Side	Well gas	-	•20% Opacity ^{3,4} •0.05 grains PM/SCF ⁵ •500 ppm SO ₂ ⁶
9	Flare - S	Flare on the Starboard Side	Well gas	-	•20% Opacity ^{3,4} •0.05 grains PM/SCF ⁵ •500 ppm SO ₂ ⁶
10	GM 12V71 Engine	Port Crane Engine	Diesel	-	•20% Opacity ^{3,4} •0.05 grains PM/SCF ⁵ •500 ppm SO ₂ ⁶
11	GM 12V71 Engine	Starboard Crane Engine	Diesel	-	•20% Opacity ^{3,4} •0.05 grains PM/SCF ⁵ •500 ppm SO ₂ ⁶
12	GM 6V71 Engine	Aft Crane Engine	Diesel	-	•20% Opacity ^{3,4} •0.05 grains PM/SCF ⁵ •500 ppm SO ₂ ⁶
13	Lister Boiler	Hot water boiler	Diesel	-	•20% Opacity ^{3,4} •0.05 grains PM/SCF ⁵ •500 ppm SO ₂ ⁶
14	Lister Boiler w/Saacke Burner	Hot water boiler	Used oils from SDC equipment and diesel	-	•20% Opacity ^{3,4} •0.05 grains PM/SCF ⁵ •500 ppm SO ₂ ⁶

EU ID	EU	EU Description	Fuel Type	Annual Operating Limit	Emission Limitations
15	Atlas MAX50S	Garbage incinerator	Trash, domestic waste, and diesel	500 hours combusting diesel fuel ¹	•20% Opacity ^{3,4}
16	Cuttings Cleaning System	Volcano burner fitted to a rotary dryer	Diesel	-	•20% Opacity ^{3,4} •0.05 grains PM/SCF ⁵ •500 ppm SO ₂ ⁶
1-16 and 19-36	SDC	All diesel fueled emissions units	Diesel	1,263,909 total gallons of diesel fuel combusted ¹	•Diesel Fuel Sulfur Content ≤ 0.05% by weight ²
8 and 9	Flare – P and Flare – S	Both flares	Well gas	96 total combined hours of operation ¹	-
17	DST	Drilling supply tug physically attached to SDC	Diesel	264 hours ¹	•20% Opacity ⁷ •Diesel Fuel Sulfur Content ≤ 0.5 % by weight ²
18	FST	Fuel supply tug physically attached to SDC	Diesel	100 hours ¹	•20% Opacity ⁷ •Diesel Fuel Sulfur Content ≤ 0.5 % by weight ²
19	Lister Air Heater	Indirect fired hot-air heater	Diesel	-	•20% Opacity ^{3,4} •0.05 grains PM/SCF ⁵ •500 ppm SO ₂ ⁶
20	MAC Chinook 800	Indirect fired hot-air heater and diesel engine	Diesel	-	•20% Opacity ^{3,4} •0.05 grains PM/SCF ⁵ •500 ppm SO ₂ ⁶
21	MAC Chinook 800	Indirect fired hot-air heater and diesel engine	Diesel	-	•20% Opacity ^{3,4} •0.05 grains PM/SCF ⁵ •500 ppm SO ₂ ⁶
22	Halliburton Line heater	Heats the piping during well testing	Diesel	-	•20% Opacity ^{3,4} •0.05 grains PM/SCF ⁵ •500 ppm SO ₂ ⁶
23	Herman Nelson	Hot-air heater	Diesel	-	•20% Opacity ^{3,4} •0.05 grains PM/SCF ⁵ •500 ppm SO ₂ ⁶

EU ID	EU	EU Description	Fuel Type	Annual Operating Limit	Emission Limitations
24	Herman Nelson	Hot-air heater	Diesel	-	<ul style="list-style-type: none"> •20% Opacity⁷ •Diesel Fuel Sulfur Content ≤ 0.5 % by weight²
25	Herman Nelson	Hot-air heater	Diesel	-	<ul style="list-style-type: none"> •20% Opacity^{3,4} •0.05 grains PM/SCF⁵ •500 ppm SO₂⁶
26	SmartAsh II	Garbage incinerator	Trash, domestic waste, and diesel	7200 hours combined for both Smart Ash unit	<ul style="list-style-type: none"> •20% Opacity^{3,4}
27	SmartAsh II	Garbage incinerator	Trash, domestic waste, and diesel	7200 hours combined for both Smart Ash unit	<ul style="list-style-type: none"> •20% Opacity^{3,4}
28	Two Detroit 8V71's	Halliburton cement pump	Diesel	-	<ul style="list-style-type: none"> •20% Opacity^{3,4} •0.05 grains PM/SCF⁵ •500 ppm SO₂⁶
29	Detroit 4-71	Schlumberger logging unit	Diesel	-	<ul style="list-style-type: none"> •20% Opacity^{3,4} •0.05 grains PM/SCF⁵ •500 ppm SO₂⁶
30	Hatz A239	Schlumberger GPS unit	Diesel	-	<ul style="list-style-type: none"> •20% Opacity^{3,4} •0.05 grains PM/SCF⁵ •500 ppm SO₂⁶
31	Onan 12ODJC	Schlumberger logging unit	Diesel	-	<ul style="list-style-type: none"> •20% Opacity^{3,4} •0.05 grains PM/SCF⁵ •500 ppm SO₂⁶
32	Lister ST3	Schlumberger vertical seismic profiler	Diesel	-	<ul style="list-style-type: none"> •20% Opacity^{3,4} •0.05 grains PM/SCF⁵ •500 ppm SO₂⁶
32	Lister ST3	Schlumberger vertical seismic profiler	Diesel	-	<ul style="list-style-type: none"> •20% Opacity^{3,4} •0.05 grains PM/SCF⁵ •500 ppm SO₂⁶
34	Onan 7.5DKDEJ	Halliburton Slickline generator	Diesel	-	<ul style="list-style-type: none"> •20% Opacity^{3,4} •0.05 grains PM/SCF⁵ •500 ppm SO₂⁶

EU ID	EU	EU Description	Fuel Type	Annual Operating Limit	Emission Limitations
35	Perkins 6.354	Halliburton Slickline hydraulic power	Diesel	-	•20% Opacity ^{3,4} •0.05 grains PM/SCF ⁵ •500 ppm SO ₂ ⁶
36	Delmag D46-32	Drive hammer	Diesel	-	•500 ppm SO ₂ ⁶

Notes of explanation regarding operating limits and emission limits.

1. The restriction on annual hours of operation and annual fuel use is an owner-requested limit. Compliance is determined on a 12-month rolling average basis.
2. The diesel fuel sulfur content limit is an owner-requested limit.
3. Visibility through the exhaust effluent of the incinerator may not be reduced by visible emissions, excluding water vapor, by more than 20 percent (20% opacity) for a total of more than three minutes in any one hour per 18 AAC 50.050(a)(2).
4. Visible emissions, excluding condensed water vapor, from each stationary IC engine, each flare, each boiler, and the cuttings cleaning system may not reduce visibility through the exhaust effluent by greater than 20 percent (20% opacity) for a total of more than three minutes in any one hour, per 18 AAC 50.055(a)(1).
5. The particulate matter (PM) limit of 0.05 grains per standard cubic foot (SCF) is located at 18 AAC 50.055(b)(1).
6. The sulfur-compound limit (expressed as SO₂) of 500 ppm averaged over a period of three-hours is located at 18 AAC 50.055(c).
7. Visible emissions, excluding condensed water vapor, from each marine vessel fixed to the SDC may not reduce visibility through the marine vessel's exhaust effluent by greater than 20 percent (20% opacity), per 18 AAC 50.070. See 18 AAC 50.070 as many exceptions may apply.

ATTACHMENT 2



Glenn Gray
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11/22/2002 03:00 PM

To: Gene Pavia <GPavia@lynxalaska.com>
cc: Anita Franke/R10/USEPA/US@EPA, meyer.daniel@epamail.gov
Subject: Re: FW: McCovey ACMP & EPA Air Permit

Gene:

I have read the information you submitted regarding the proposed changes to the air permit for the McCovey Exploration Project. Because there will be no increase in overall emissions and the changes will not affect the current fuel-use limits, an additional consistency review is not needed. The project remains consistent with the Alaska Coastal Management Program.

By copy of this email, I will notify EPA that the State of Alaska will not be conducting a consistency review for the proposed changes.

Glenn Gray
Project Analyst